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BIBLIOTHECA AMERICANA.—Robert Clarke & Co., Cincinnati, have issued a catalogue of books and pamphlets relating to America, containing 6589 titles, with prices. Many of these works are rare and some of them almost out of the market. A reprint of John Leith's travels and captivity among the Indians, covering a period of eighteen years (1774–1792), in a limited edition, is announced. The same firm advertises Shea's Mississippi series in three volumes, and Dr. Brinton's Library of Aboriginal American Literature, the first number of which is now ready.

#### MICROSCOPY.<sup>1</sup>

THE USE OF CHLOROFORM PREPARATORY TO IMBEDDING IN PARAFFINE.—As is well known to all who are familiar with the use of the microtome, objects to be imbedded in paraffine must be saturated with some solvent of paraffine. It has been found that the different solvents do not all give equally good results. The use of chloroform, which is now coming into general use, was first proposed by Dr. Giesbrecht,<sup>2</sup> of the Zoölogical Station at Naples; but was soon afterwards recommended by Professor Bütschli,<sup>3</sup> to whom the Journal of the Royal Mic. Society (Oct., 1882, p. 708) has inadvertently given the credit of the discovery. Chloroform is unquestionably superior, in certain important respects, to oil of cloves, creosote or turpentine. *It is particularly to be recommended where there is danger of shrinking and brittleness.* The method of using it has been briefly stated in the October number of this journal (p. 783).

In the *Zoologischer Anzeiger*, No. 129, p. 20, Professor Kossmann, of Heidelberg, says that chloroform is the only solvent that can be successfully used in the case of objects with thick chitinous membranes.

In the use of chloroform two points must be carefully attended to, namely, the *complete saturation* of the object before it is placed in paraffine, and the *complete evaporation* of the chloroform before the object is finally imbedded. If the first point is not secured, of course the paraffine will not penetrate the object thoroughly; and if the chloroform does not wholly escape before the process of imbedding begins, the paraffine will be spongy, and consequently unfit for section-cutting. The evaporation of the chloroform may be effected in two or more ways. In all cases the object must lie in chloroform until thoroughly saturated. Then paraffine may be added gradually, as recommended by Dr. Giesbrecht; or the saturated object may be placed in a solution of paraffine in chloroform, as recommended by Professor Bütschli. After remaining here until it is thoroughly impregnated (an hour or less), it may

<sup>1</sup> Edited by Dr. C. O. WHITMAN, Newton Highlands, Mass.

<sup>2</sup> Giesbrecht, "Zur Schneide-Technik." *Zool. Anzeiger*, 1881, No. 92.

<sup>3</sup> Bütschli. *Biol. Centralblatt*, vol. I, p. 591 (1881).

be placed in a watch-glass with a little of the solution, and kept at a temperature of about  $50^{\circ}$  C. until the chloroform has escaped. In case of larger objects they may be transferred directly from the solution to pure paraffine, without undergoing the slow process of evaporation.

Kossmann transfers the object directly from pure chloroform to pure paraffine, and allows it to remain in the paraffine (kept at a constant temperature of  $50^{\circ}$  C.) for several hours—sometimes for two or three days.

DR. SCHULGIN'S MIXTURE FOR IMBEDDING.<sup>1</sup>—Instead of pure paraffine, Dr. Schulgin uses a mixture of paraffine with ceresin, a substance somewhat similar to wax, but firmer and much less brittle. Paraffine which melts at  $55^{\circ}$  C. is recommended; and the amount of ceresin to be added to a given amount of paraffine may be determined by experiment. The finest sections of this substance are not brittle, and herein lies the chief excellence of the mixture. If this mixture proves too hard, it may be softened by adding a little vaseline.

EAU DE JAVELLE AS AN AGENT FOR REMOVING THE SOFT PARTS FROM MICROSCOPICAL PREPARATIONS.—Perls,<sup>2</sup> Altmann and Noll<sup>3</sup> recommend *Eau de Javelle* ( $\text{KClO}_2$ ) as an excellent fluid for removing the soft parts of animal and vegetable tissues. If a piece of Spongilla, for example, is placed on a slide and a drop of this water added, all the soft parts are destroyed in 20–30 minutes, and the spicula are left *in situ*. After the protoplasmic parts have been thus removed, the preparation is carefully treated with acetic acid, in order to remove any cloudy precipitates; then washed with weak, strong and absolute alcohol successively; and finally mounted in oil of cloves and balsam.

Very neat preparations of diatoms may be obtained with this fluid. The calcareous part of shells thus treated is not destroyed. Sections of plant buds were successfully treated and then mounted in Meyer's fluid (10 volumes glycerine, 20 dist. water and 1 salicyl-methyl acetate).

The skeletons of small animals may be easily prepared by placing the bodies in *Eau de Javelle*, which removes the skin, muscles, &c., without injuring the bones.

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## SCIENTIFIC NEWS.

— The Balfour Memorial.—The form which the Balfour Memorial has taken makes it a subject of far more general interest than could have been the case had the testimonial been merely a personal tribute to the man, great as he was. An American com-

<sup>1</sup> *Zoologischer Anzeiger*, VI, No. 129, p. 21, 1883.

<sup>2</sup> *Arch. f. microscop. Anat.*, vol. XVI, 1879.

<sup>3</sup> *Zoolog. Anzeiger*, V, No. 122, p. 528.